

REMARKS

Favorable reconsideration of this application is respectfully requested.

Claims 26 and 34-49 are pending in this application. Claims 27-33 are cancelled by the present response without prejudice and claims 45-49 are added by the present response. Claims 1-27 were previously cancelled without prejudice. Claims 34-42 and 44 were objected to for containing informalities. Claim 35 was rejected under 35 U.S.C. § 112, second paragraph. Claim 34 was rejected under 35 U.S.C. § 102(b) as anticipated by U.S. patent 5,788,747 to Horiuchi et al. (herein "Horiuchi"). Claims 34-38 were rejected under 35 U.S.C. § 103(a) as unpatentable over Horiuchi. Claims 26-33 and 43 are allowed.

Initially, applicants gratefully acknowledge the indication of the allowable subject matter.

Addressing first the objection to claims 34-42 and 44, those objections are traversed by the present response. More specifically, each of the above-noted claims has been amended by the present response to address the objections thereto along the lines noted in the outstanding Office Action. In certain instances, slightly different phraseology has been recited in the claims than as suggested in the Office Action, but the presently submitted claim amendments are believed to address each of the outstanding objections noted in the Office Action.

Applicants also note that allowed independent claim 26 is amended by the present response to delete certain language, and to specifically delete certain requirements of deposited materials. However, independent claim 26 is still believed to recite allowable subject matter.

Addressing now the rejection claim 35 under 35 U.S.C. § 112, second paragraph, claim 35 is believed to now be definite in view of the amendments to independent claim 34, from which claim 35 depends.

Addressing now the rejection of claim 34 under 35 U.S.C. § 102(b) as anticipated by Horiuchi, and the rejection of claims 34-38 under 35 U.S.C. § 103(a) as unpatentable over Horiuchi, those rejections are traversed by the present response.

Applicants respectfully submit that the features recited in the currently pending claims 34-38 distinguish over the teachings in Horiuchi.

In each of the above-noted claims an impurity gas and a reaction gas are mixed to cause a reaction, and a generated reaction by-product is condensed and trapped.

Such a structure is believed to clearly distinguish over the teachings in Horiuchi. More specifically, in Horiuchi no reaction (combustion) occurs only by mixing DMAH gas and dry air. In Horiuchi to cause a reaction a ceramic heater is required, see column 7, lines 53-56. The generated reaction by-product (combustion product) is also then not condensed in Horiuchi.

In further detail, Horiuchi disclose a method in which DMAH reacts with dry air from the exhaust gas and the injection of dry air allows the DMAH to be combusted, in the exhaust gas, into combustion by-products.

In contrast to Horiuchi, claims 34-38 utilize gases in which a reaction by-product is yielded by condensing, rather than the chemical reaction of combustion disclosed in Horiuchi. In claims 34-38, the residual gas condenses and the gas is trapped, see as a non-limiting example trap mechanism 38 discussed in the present specification at page 17, lines 13-15. As a result, the invention of claims 34-38 makes it possible to generate a by-product in a vacuum atmosphere that is upstream of a pump, and with such a structure an inside of a pump is not contaminated with impurity gas. By contrast, in Horiuchi if such a combustion reaction was carried out in the vacuum atmosphere, that would result in creating various types of problem. For example, combustion waste would be created, which would contaminate the inside of the pump. Horiuchi thereby does not even address or solve the

problem of contamination inside a pump. In Figure 1 Horiuchi discloses that a removing means 40 is provided not on an inlet side but on a discharge side of the pump 100, and it is well-known that a discharge side of the pump is at atmospheric pressure.

Therefore, Horiuchi does not teach or suggest mixing a reaction gas to react with impurity gas at a location between a process apparatus and a trap mechanism, and then controlling a temperature of the trap mechanism to condense the reaction by-product so that the trap mechanism traps the condensed reaction by-products.


In such ways, independent claim 34, and claims 35-38 dependent therefrom, are believed to clearly distinguish over the applied art to Horiuchi.

The present response also sets forth new claims 45-49 for examination, of which new claim 45 is independent. New independent claim 45 is believed to also distinguish over the applied art for similar reasons as discussed above.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Registration No. 25,599
Surinder Sachar
Registration No. 34,423
Attorneys of Record



22850

Tel: (703) 413-3000
Fax: (703) 413 -2220